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Design of beam collimator control system for HEPS

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The primary function of the HEPS (High Energy Photon Source) collimator is to intercept lost particles induced by the Touschek effect, thus localizing beam loss and reducing it outside the collimator region. It also acts as a dump in emergency situations to meet equipment protection requirements. The collimator control system utilizes EtherCAT bus technology for precise motion control of the scraper. It interfaces with the EPICS system through modbusTCP, enabling remote operation from the HEPS control room. Due to its location in a high-radiation zone, the control system's drive components were selected for their special radiation resistance. On-site testing confirmed stable, precise movement of scraper meeting design requirements, and smooth operation of the remote control system.

Footnotes

Funding Agency

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Yes

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